action which it excites, the absence of the period of excitement, the rapidity with which the patient awakens from the narcosis, the speedy return of the appetite and the absence of untoward complications. In only one case, in which the etherization was continued for a very long time, respiratory syncope occurred. Gurlt concludes that undoubtedly ether is the least dangerous anæsthetic for all surgical purposes, and has the broadest field of application. Next to this, Billroth's mixture has shown the best results. Bromethyl is applicable only for short, brief narcosis. In dentistry it is found to be no less dangerous than chloroform. Pental narcosis is to be warned against.

During the last ten years 11,464 cases have been anæsthetized by dentists with nitrous oxide. Sometimes it was used pure and sometimes with an addition of a small amount of oxygen. With the pure gas cyanosis was often observed, which did not occur with the oxygen mixture. No deaths are reported. — *Verhandlungen der deutchen Gesellschaft für Chirurgie*, XXII Kongress, 1893.

VI. Successful Transplantation Without a Pedicle of Skin Flaps Containing the Subcutaneous Fat. By Dr. H. HIRSCHBERG (Frankfurt, a.M.). Hirschberg is of the opinion that the success in the transplantation of a piece of tissue from one part of the body to another depends on the amount of nutritive material its vessels can be made to hold, which may subserve the function of keeping its cells alive until they become connected with the neighboring tissue. To accomplish this he makes use of tissue which is naturally rich in blood-vessels or induces an hyperæmia by artificial means. He calls attention to the fact that by beating or rubbing a paralysis of the muscles of the veins is caused, which enables these vessels to contain a larger amount of blood.

He reports four cases of transplantation of flaps with their subcutaneous fatty tissue for defects after the extirpation of tumors. These defects he made quadrilateral in form, with borders as steep as possible. The bleeding was controlled in three cases by compression, but in the last case it was necessary to apply two fine catgut ligatures. While an assistant was making this compression he removed the flap for transplantation.

He applied an Esmarch bandage to the elevated arm, and made constriction in the middle of the upper arm. He then whipped the outer side of the fore-arm for two or three minutes with a sort of elastic cat-o'-nine-tails. Then a flap was cut out on three sides, which, after shrinking, should fill the defect to be repaired. The three sides of the flap having been cut out, it was lifted up and turned back upon its still undivided edge. Interrupted silk sutures were then passed from without through the flap near its free borders, and left with their needles still hanging in place. The hæmorrhage in the original wound having by this time been checked, the constriction was removed from the arm. After a few minutes the skin of the flap became red and swollen. Everything being ready for the transplantation, the flap was severed from its remaining attachment by a couple of strong cuts with the scissors. It was then laid upon the prepared surface, the threads arranged in order, and superfluous lobules of fat trimmed away from the edges. After placing the flap in its new position, the sutures were passed through the edges of the wound from within outwards and tied. In order to effect a more perfect apposition of surfaces a few very fine silk sutures were introduced between these. The fourth border was then sutured, after carefully wiping away the small amount of blood which had accumulated in the wound. A small opening was left at one corner for the escape of any further accumulation. The whole was dressed with protective gauze and cotton, retained by a moderate degree of compression.

The four cases which were operated upon after this method all healed well. The flaps appear pale during the first few hours, but on the next day they have a very normal appearance. For five or six days they retain this perfect freshness of appearance, and then begin to turn a dark bluish color. In fifteen or eighteen days their sloughs can be removed from the surface, under which can be seen the red skin surface, which in a few days resumes its normal appearance.

In this line Neuber has reported a plastic operation for a deep funnel-shaped cicatrix following an healed bone tuberculosis. After loosening the scar from its underlying tissue, he took a piece of fat from the upper arm of the patient and implanted it in the funnel, which it completely filled. The skin was then sewed over the fat. The wound healed, and the cosmetic result was perfect.—*Verhandlungen der deutschen Gesellschaft für Chirurgie*, XXII Kongress, 1893.

VII. Bone-Filling. By DR. SONNENBURG (Berlin). For the purpose of filling the cavities in bones by some foreign substance Sonnenburg holds that the material used must have the following qualifications: It must harden quickly, and not be poisonous, and have some antiseptic property. Then it does not become necessary to make the cavities in osteo-myelitic and tuberculous bones strictly aseptic before filling. Such materials are employed by the dentists. The experiments of Dr. Oscar Mayer, with copper amalgam, have, demonstrated that this filling material not only prevents the further development of bacteria, but kills those already present. Plaster of Paris does not seem to answer the purpose, because it is too porous and heavy, and, even when mixed with carbolic solution, does not remain antiseptic. A series of experiments have been made with dogs. The filling was found completely healed in from four to six weeks. In one case a gauze sponge was accidentally left in the bone cavity with the filling material, and was found healed in. It was found in all cases that newly-formed bone substance had grown over the filling. Experiments must still be made to discover what material is best adapted in surgical practice to filling the cavities in bone.— —*Verhandlungen der deutschen Gesellschaft für Chirurgie*, XXII Kongress, 1893.

VIII. Histological Observations After Bone Implantation. By DR. A. BARTH (Marburg). The author has made a series of observations in the pathological institute of Professor Marchand, in Marburg, to determine the histological processes which take place in transplanted bone which retains its vitality. Though previous observers have come to the conclusion that a piece of bone